AMENDMENTS TO THE CLAIMS

Claims 1-29 cancelled

30. (Currently Amended) A method of forming a dielectric layer of a first thickness on a semiconductor wafer comprising:

forming the dielectric layer of the first thickness on the wafer;

forming an aperture in the dielectric layer;

positioning a shield layer on the dielectric layer;

positioning a sacrificial layer on the shield layer;

depositing conductive material [on] so as to fill the aperture and so as to cover at least a portion of the sacrificial layer;

removing the conductive material and the sacrificial layer using a chemical mechanical polishing process adapted to remove the conductive material and the sacrificial layer until the shield layer is reached, wherein the shield layer is more resistant to planarization by the chemical mechanical polishing process than the sacrificial layer, and wherein the shield layer inhibits thinning of the dielectric layer during the chemical mechanical polishing process, and wherein interposing the sacrificial layer between the conductive material and the shield layer reduces the amount of conductive material on the shield layer following the chemical mechanical polishing process; and

detecting when the chemical mechanical polishing process has removed the sacrificial layer and halting the chemical mechanical polishing process upon detecting when the sacrificial layer has been removed so as to maintain the dielectric layer at the first thickness.

31. (Original) The method of Claim 30, wherein the shield layer is formed of a material having a different hardness than the sacrificial layer and wherein detecting when the chemical mechanical polishing process has removed the sacrificial layer comprises detecting the transition between when the chemical mechanical polishing process is interacting with the sacrificial layer and the shield layer.

32. (Original) The method of Claim 31, wherein the step of detecting when the chemical mechanical polishing process has removed the sacrificial layer comprises sensing the current being drawn by a motor inducing relative movement between a polishing pad and the wafer and sensing when the current drawn by the motor indicates that the pad is in contact with the shield layer.

33. (Original) The method of Claim 32, wherein forming the shield layer comprises forming a dielectric antireflective coating (DARC) layer on a BPSG dielectric layer.

34. (Original) The method of Claim 30, wherein the chemical mechanical polishing process is performed using an etchant selected to remove the sacrificial layer and wherein the shield layer is selected to be resistant to the selected etchant.

35. (Original) The method of Claim 34, wherein the shield layer is comprised of a Nitride layer positioned on the dielectric layer.

36. (Original) The method of Claim 35, wherein the sacrificial layer is comprised of a BPSG Oxide layer formed on the Nitride layer.

37. (Original) The method of Claim 30, further comprising forming a cavity in the dielectric layer and wherein depositing the conductive material on the sacrificial layer results in the cavity being filled with the conductive material.

Claims 38-55 cancelled.

56. (Currently Amended) A method of forming a dielectric layer of a first thickness on a semiconductor wafer comprising:

forming the dielectric layer of the first thickness on the wafer;

forming an aperture in the dielectric layer;

positioning a shield layer on the dielectric layer;

positioning a sacrificial layer on the shield layer;

depositing conductive material [on] so as to fill the aperture and so as to cover at least a portion of the sacrificial layer;

removing the conductive material and the sacrificial layer using a chemical mechanical polishing process adapted to remove the conductive material and the sacrificial layer until the shield layer is reached, wherein the shield layer is more resistant to planarization by the chemical mechanical polishing process than the sacrificial layer, and wherein the shield layer inhibits thinning of the dielectric layer during the chemical mechanical polishing process, and wherein interposing the sacrificial layer between the conductive material and the shield layer reduces the amount of conductive material on the shield layer following the chemical mechanical polishing process;

selecting an etchant for use with the chemical mechanical polishing process to facilitate removal of the sacrificial layer, and wherein the shield layer is selected to be resistant to the selected etchant; and

detecting when the chemical mechanical polishing process has removed the sacrificial layer and halting the chemical mechanical polishing process upon detecting when the sacrificial layer has been removed so as to maintain the dielectric layer at the first thickness.

57. (Previously Presented) The method of Claim 56, wherein the shield layer is formed of a material having a different hardness than the sacrificial layer and wherein detecting when the chemical mechanical polishing process has removed the sacrificial layer comprises detecting the transition between when the chemical mechanical polishing process is interacting with the sacrificial layer and the shield layer.

58. (Previously Presented) The method of Claim 57, wherein the step of detecting when the chemical mechanical polishing process has removed the sacrificial layer comprises sensing the current being drawn by a motor inducing relative movement between a polishing pad and the wafer and sensing when the current drawn by the motor indicates that the pad is in contact with the shield layer.

59. (Previously Presented) The method of Claim 58, wherein forming the shield layer comprises forming a dielectric antireflective coating (DARC) layer on a BPSG dielectric layer.

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60. (Previously Presented) The method of Claim 56, wherein the shield layer is comprised of a Nitride layer positioned on the dielectric layer.

61. (Previously Presented) The method of Claim 60, wherein the sacrificial layer is comprised of a BPSG Oxide layer formed on the Nitride layer.

62. (Previously Presented) The method of Claim 56, further comprising forming a cavity in the dielectric layer and wherein depositing the conductive material on the sacrificial layer results in the cavity being filled with the conductive material.